

effects. Consumption of mercury by adults may lead to neurological problems, and in some studies has been linked to heart, immune system, and kidney problems.

Some subpopulations in the U.S., such as: Native Americans, Southeast Asian Americans, and lower income subsistence fishers, may rely on fish as a primary source of nutrition and/or for cultural practices. Therefore, they consume larger amounts of fish than the general population and may be at a greater risk to the adverse health effects from mercury due to increased exposure. In pregnant women, methylmercury can be passed on to the developing fetus, and at sufficient exposure may lead to a number of neurological disorders in children. ~~These disorders can lead to learning disabilities, delayed development, and in severe cases such as acute poisoning, cerebral palsy.~~ Thus, children who are exposed to low concentrations of methylmercury prenatally ^{may be} at increased risk of poor performance on neurobehavioral tests, such as those measuring attention, fine motor function, language skills, visual-spatial abilities (like drawing), and verbal memory. The effects from prenatal exposure can occur even at doses that do not result in effects in the mother. Mercury ^{may} also affect ^{young} children who consume fish contaminated with mercury. Consumption by children may lead to

To: Bill Maxwell 919-541-5450
From: Bob Wayland

12-8-03

[12:30pm]

~~Recent published studies have shown~~
Furthermore, it has been hypothesized that
there is an association between methylmercury
exposure and increased risk of heart attacks
and coronary disease in adult men.
This hypothesis warrants further testing as
the few studies currently available
present conflicting results.

Perspective: Mercury and Health. P. M. Bolger and
B. A. Schwetz

Mercury, Fish Oils, and the Risk of Myocardial
Infarction. Guallar et al.

Mercury and the risk of coronary heart
disease in men. B. Yoshizawa et al.

New England Journal of Medicine, Volume 347,
No. 22, (2002)

From - Amy Farrell @ OMB

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Pollutant/Effect	Quantified and Monetised	Unquantified Effects
		Impacts of nitrogen deposition on recreation in estuarine ecosystems Reduced existence values for currently healthy ecosystems
SO ₂ /Health		Hospital admissions for respiratory and cardiac diseases Respiratory symptoms in asthmatics
NO _x /Health		Lung irritation Lowered resistance to respiratory infection Hospital Admissions for respiratory and cardiac diseases
Mercury Health		Neurological disorders Learning disabilities Retarded Developmental delays Cardiovascular effects* Altered blood pressure regulation* Increased heart rate variability* Myocardial infarctions* Reproductive effects in adults*

* These effects ~~are~~ ^{are} potential as the literature is either contradictory or incomplete

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 serious public health and environmental hazards arising from
 such emissions." [79,830/2]. Upon further review of the
 record and the December 2000 notice, EPA believes that this
 finding is over-broad in two respects.

First, the "necessary" finding suggests that all HAP
 from coal- and oil-fired electric utility steam generating
 units pose "serious public health...hazards." [79,830/2.]
 Upon further review of the record, EPA recognizes that it
 could not have reached such a conclusion based on the record
 before it in December 2000. That record supports only a
 ✓ finding that Hg and Ni pose confirmed ^{get rid of} hazards to public
 health. Nothing in the Study or the information EPA
 obtained following that study supports the proposition that
 ✓ HAP ^{emissions from EUSGUS} other than Hg and Ni pose "serious public health
 hazards." ^{emissions of} See, e.g., 79,827/3 (finding no hazards to
 public health associated with other HAP examined in the

⁵ The December 2000 finding expressly states that
 the "serious public health...hazards" are those "identified
 in the utility RTC and confirmed by the NAS Study." The NAS
 Study focused exclusively on Hg. Although the Utility Study
 covered many HAP emitted from utilities, the only hazards to
 public health specifically identified as such in that Study
 related to ~~emissions of Hg and Ni.~~

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CAA section 112 was "necessary" because the other provisions of the Act would not adequately address the health hazards associated with Hg emissions from coal-fired electric utility steam generating units and Ni emissions from oil-fired units. Since December 2000, we have conducted a thorough re-assessment of the provisions of the CAA, and have determined that CAA section 111, once implemented, would adequately address the hazards to public health associated with Hg and Ni emissions from electric utility steam generating units. Thus, although we continue to believe that Hg and Ni emissions pose *over time* *at sufficiently high levels* confirmed hazards to public health, we believe that those hazards can adequately be addressed under CAA section 111 and therefore that regulation of coal- and oil-fired electric utility steam generating units under section 112 is not necessary.

No

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In light of our revised conclusion concerning the scope of existing authority under the Act, we revisited the results of the health effects study that we conducted pursuant to CAA section 112(n)(1)(A). In particular, we examined the study's conclusions regarding those HAP other than Hg and Ni emitted from coal- and oil-fired electric utility steam generating units. The Study reveals that there are no hazards to public health associated with

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CAA section 112 was "necessary" because the other provisions of the Act would not adequately address the health hazards associated with Hg emissions from coal-fired electric utility steam generating units and Ni emissions from oil-fired units. Since December 2000, we have conducted a thorough re-assessment of the provisions of the CAA, and ~~have determined~~ ^{we are proposing to} that CAA section 111, once implemented, would adequately address the hazards to public health associated with Hg and Ni emissions from electric utility steam generating units. Thus, although we continue to believe that Hg and Ni emissions pose confirmed hazards to public health, we believe that those hazards can adequately be addressed under CAA section 111 and therefore that regulation of coal- and oil-fired electric utility steam generating units under section 112 is not necessary.

In light of our revised conclusion concerning the scope of existing authority under the Act, ^{also} we revisited the results of the health effects study that we conducted pursuant to CAA section 112(n)(1)(A). In particular, we examined the study's conclusions regarding those HAP other than Hg and Ni emitted from coal- and oil-fired electric utility steam generating units. The Study reveals that there are no hazards to public health associated with

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result from sources meeting the emission limitations that make up the proposed section 112 MACT floor alternative.

~~The proposed actions are expected to reduce emissions of mercury, which can~~

and

The proposed section 112 actions address Hg and Ni emission^S from coal- and oil-fired Utility Units. Exposure

to emissions of Hg at low levels may cause neurological damage and learning disorders, and Ni, which, Nickel

subulfide and refinery dusts are classified as a known

human carcinogens; Ni carbonyl is classified as a probable human carcinogen based upon studies in animals. Due to the control technologies selected for analysis, the actions to reduce mercury~~Hg~~ will also achieve reductions of NO_x and SO₂. Although not incorporated into the analyses, the actions to reduce Ni will also reduce direct emissions of particulate matter. Known health and welfare effects associated with the pollutants affected by the proposed rule are listed in Table 5. As indicated in the table, we are able to quantify and monetize only a portion of these effects.

Changed

"Can cause"
to

"may cause"